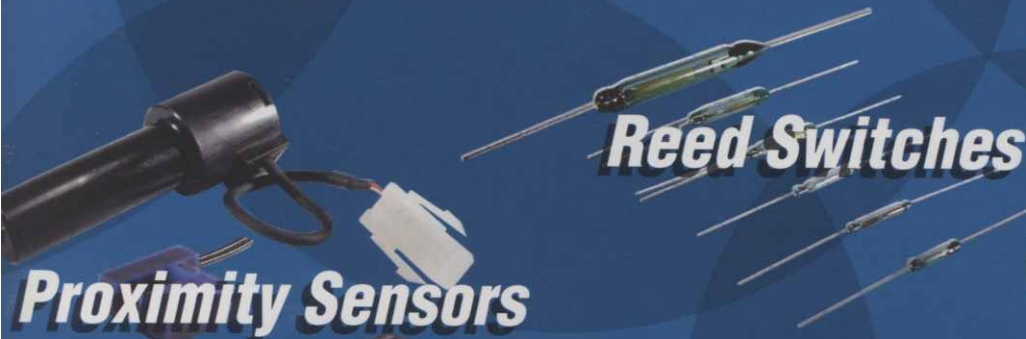


**Photo Sensors**



**Specialty Sensors**



**Reed Switches**



**Proximity Sensors**



**Reed Relays**



**Security Systems**



**Level Sensors**

## Management Philosophy

"Socio-electronics", the management philosophy of **ALEPH**, is aiming to become a powerful and diverse global enterprise through contribution to social progress centered on electronics. As a pioneer in the electronics industry, our company is determined and prepared to provide valuable products while seeking mutual collaborations with our customers.

Our company's name, "**ALEPH**", is synonymous with "Alpha" in the Greek language and means "Endless Development" in Sanskrit.

**ALEPH** is a specialized manufacturer of reed switches, reed relays, proximity sensors, liquid level sensors, photo sensors and other detection sensing devices including security equipment and information terminals.

We have the capabilities of developing valuable products based on our long accumulated core knowledge and application experience.

Our company's products are predominantly used by manufacturers of office automation (OA) equipment, household electric appliances, factory automation (FA) equipment, cars, integrated circuit (IC) testers and measuring instruments. Our products have also been highly praised in the security industry.

## Mission Statement

In the present situation where technological innovations are rapidly developing and the market structure is globally changing, **ALEPH** will accelerate "speedy management" more and more based on our main business theme of the thorough pursuit of "Quality and Value".



## "Quality & Value have no limits"

### ISO System Promotion Guidelines

#### ● Quality standard guidelines

We consistently provide products and service which gain the customer's sense of security and trust as a result of our customer-oriented quality system.

#### ● Environmental standard guidelines

With an aim of realizing our management philosophy "**SOCIO-ELECTRONICS**", **ALEPH** continuously makes efforts to preserve the global environment harmonizing the global environment and community throughout our business practice and employee actions.

● **ALEPH** is ISO 9001, ISO 14001, and QS 9000 certified and will soon transition to TS 16949 automotive standards.



QS 9000



ISO 9001



ISO 14001

### Top Products in Our Niche Market

● Our "Reed Switch" was introduced as a one of a kind top product in the switching device field niche market. In a featured article of "NIKKEI VENTURE NO.181" published in October 1999 as the "127 best small companies in the world" supporting Japan in its creative endeavors.

● Recently, to promote new creative technologies, encouragement by public institutions has been implemented as a part of a venture capital initiative, and since 1998, we have been authorized by Ministry of Economy, Trade and Industry, Ministry of Public Management, Home Affairs, Posts and Telecommunications, Ministry of Education, Culture, Sports, Science and Technology, and Yokohama City as a company to receive aid to promote developments in new fields such as "plastic optical fiber (POF) related modules", "ultra-small safing sensors for automobile airbags", "high performance infrared sensors" and next generation R&D, whereby we have accomplished these developments.

### Key Customers

Our sensing and switching devices are delivered to worldwide OEM companies for the production of copiers/printers/fax machines and PCs. Our products are also used in household electric appliances, automobiles, IC testers, measuring instruments, automatic vending machines, medical equipment, financial equipment and amusement equipment of major domestic companies. Our security products have been adapted in industrial and residential crime prevention systems. There are thousands of leading companies worldwide using ALEPH components and systems.

### Responding to Customers' Needs

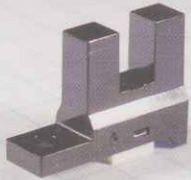
The products in this short form catalog are standard products. We also offer semi-customized versions of these parts. The specifications, materials and performance could be partially altered to meet your customer's applications. ALEPH specializes in the development of customized parts to address your customer's wide range of demanding applications.

## APPLICATIONS

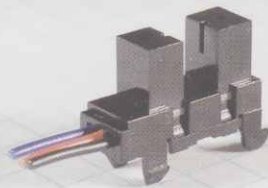
- Printers, Copiers, Scanners, Fax.
- Counters
- Amusement Games
- Vending Machines
- Encoders
- Limit Switches
- ATM
- Exercise Equipment
- Metering
- Medical Equipment
- Conveyor Systems
- Consumer Products

## Transmissive Photo Interrupter Sensors

## OJ Series



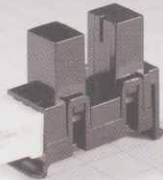
OJ-451-N23



OJ-561-30N8



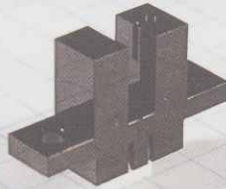
OJ-461-N23



OJ-551-A5



OJ-261



OJ-411-N23

### Features:

*Some model features include but not limited to:*

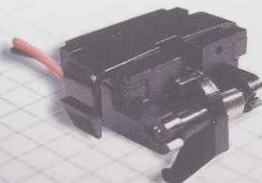
- Horizontal or Vertical Aperture Slit
  - 0, 0.25 & 0.5mm
- Sensing gap
  - Wide: 3 to 25mm
  - Deep: 5 to 13mm
- Standard Operate Temp: -20C to+85C
- Supply Voltage: 3.3VDC to 16VDC
- Ambient light rejection (IR)
- Dustproof
- Direct PCB mounting
- Snap-in mounting
  - 1, 1.2, & 1.6mm plate thickness
- Screw Mounting
  - One or Two screw hole
- Integral Connector or Wire leads & Connector
- 2-Wire Connection Version
- Photo Transistor, Photo Transistor - Open collector, Photo IC, Photo IC-Open collector, Photo Darlington Transistor & Reverse Output Logic available
- Non contact switching

## Actuator Photo Sensors

## OS Series



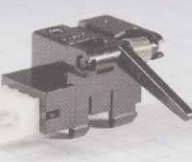
OS-201A



OS-231A-30M8



OS-381A-30N8



OS-511A-N2

### Features:

*Some model features include but not limited to:*

- Integrated Actuator arm
  - 14 standard types
  - Small Actuation Force
- Dustproof
- Standard Operate Temp: -20C to+85C
- Supply Voltage: 3.3VDC to 16VDC
- Horizontal or vertical aperture slit
- Ambient light rejection (IR)
- Snap-in mounting
  - 0.8, 1, & 1.2mm plate thickness
- Integral Connector or Wire leads & Connector
- Direct PCB mounting
- Photo Transistor, Photo Transistor - Open collector, Photo IC, Photo IC-Open collector, Photo Darlington Transistor & Reverse Logic Output

\*PLEASE CONTACT ALEPH FOR DETAILED SPECIFICATIONS FOR EACH PART



## APPLICATIONS

- Printers, Copiers, Scanners, Fax.
- Vending Machines
- ATM
- Medical Equipment
- Counters
- Encoders
- Exercise Equipment
- Conveyor Systems
- Amusement Games
- Limit Switches
- Proximity Switch
- Consumer Products

### Separate Emitter & Receiver

### OZ / OF Series



COMPACT

OF-11R1-N23



OF-11T-N23



MODULATED

OZ-120181A-702



#### Features:

Some model features include but not limited to:

- Versatile Separate Emitter & Receiver
- Dustproof
- Sensing Distance: 1mm to 300mm
- Modulated for Ambient light rejection (IR)
- Snap-in Mounting
- Screw Mounting
- Supply Voltage: 3 Vdc to 12 Vdc
- Integral Connector or Wire Leads & Connector
- Photo Transistor, Photo IC Output
- Non contact switching
- High reliability
- High accuracy
- Compact size

### Reflective Photo Sensors (Photo Transistor)

### OM Series



OM-2414



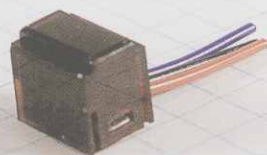
(PCB MOUNT)

OM-191



(STRAP IN)

OM-371-A8



OM-5013-30

#### Features:

Some model features include but not limited to:

- Standard Operate Temp: -20Cto+85C
- Sensing Distance: 1mm to 10mm
- Supply Voltage: 3.3 VDC to 16VDC
- Convenient Emitter and Receiver in one compact package
- Ambient light rejection (IR)
- Dustproof
- Direct PCB mounting
- Snap-in mounting
- Integral Connector or Wire leads & Connector
- Photo Transistor Logic Output
- Non contact switching
- High reliability
- High accuracy
- Compact size

\*PLEASE CONTACT ALEPH FOR DETAILED SPECIFICATIONS FOR EACH PART

## APPLICATIONS

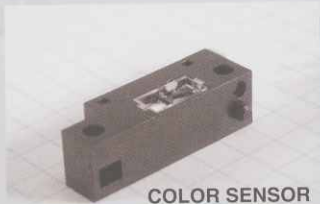
- Printers, Copiers, Scanners, Fax.
- Vending Machines
- ATM
- Medical Equipment

- Counters
- Encoders
- Exercise Equipment
- Conveyer Systems

- Amusement Games
- Limit Switches
- Metering
- Consumer Products

### Reflective Photo Sensor (Light modulated)

### OH Series



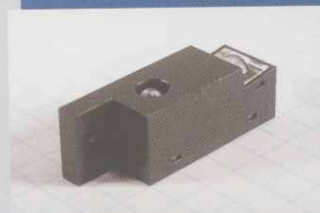
COLOR SENSOR

OM-819



MEDIA SENSOR

OH-118-A5



TONER SENSOR



MEDIA SENSOR

OM-751-N24

#### Features:

Some model features include but not limited to:

- Standard Operating Temp -20C to +85C
- Sensing Distance: 3mm to 65mm
- Supply Voltage: 5VDC
- Convenient Emitter and Receiver in one compact package
- Light modulated for Ambient light rejection (IR)
- Dustproof
- Detection of dark objects, such as Toner
- Universal Mounting
- Integral Connector or Wire leads & Connector
- Photo IC & Photo IC-Open collector Logic Output
- No moving parts
- Highly accurate / repeatability
- Non contact switching
- Detection of media type (matte, glossy, OHP)
- Detection of primary & secondary colors

### Regressive Reflection Photo Sensor

### ON Series



ON-171-A8



E-3674



(COMPACT)

ON-111-N24

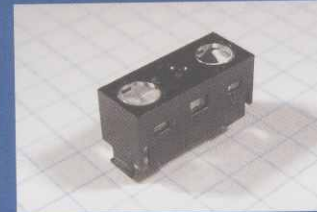


PRISM



(LONG RANGE)

ON-658-N29



E-800198

#### Features:

Some model features include but not limited to:

- Convenient one side connection
- Passive Reflector (PRISM)
- Standard Operate Temp- -20Cto+85C
- Sensing Distance: 1mm to 25mm
- Supply Voltage: 5VDC
- Light modulated for Ambient light rejection (IR)
- Dustproof
- Snap in Mounting
- Integral Connector or Wire leads & Connector
- Photo IC & Photo IC-Open collector Logic Output
- Non contact switching
- Highly accurate
- High repeatability

\*PLEASE CONTACT ALEPH FOR DETAILED SPECIFICATIONS FOR EACH PART

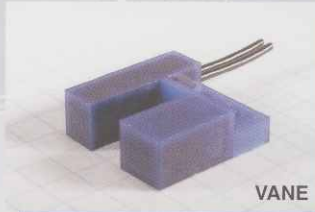


## APPLICATIONS

- Household Appliances
  - Exercise Equipment
  - Medical Equipment
  - Office Automation
- Factory Automation
  - Security Equipment
  - Battery Operated Devices
  - Utility Meters
- Automotive Sensors
  - Marine Sensors
  - Robotics
  - Gaming

## Reed Switch Proximity Sensors (Magnetic Actuation)

## PS Series

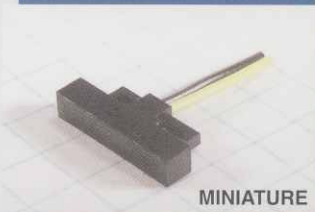


VANE

PS-0031



PS-3529



MINIATURE

PS-0048



THREADED

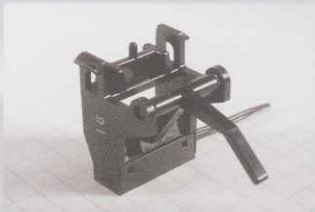
PS-0021

### Features:

- Long Life
- Non Contact Switching
- Low contact resistance
- No Power consumption
- No Contact bounce
- Magnetically Actuated – Aleph offers many standard magnets to choose from
- Many Packaging styles available
- Easy to install and wire up
- Convenient two wire system
- FORM A, B & C contact types available

## Reed Switch Proximity Sensors (Integrated Actuator)

## AS Series



AS-202



AS-303

### Features:

- Complete Solution
- Built in lever actuator – no magnet needed
- Snap Action Mounting
- Long Life
- Low contact resistance
- No Power consumption
- No Contact bounce
- Many Packaging styles
- Easy to install and wire up
- Convenient two wire system
- FORM A, B & C contact types available
- Many lever actuator types to choose from

## Inductive Proximity Sensor

## CS Series



CS-0006

### Features:

- Complete Solution
- Digital Output
- Easy to install and wire up
- Convenient three wire system, Power, Ground and Output
- Detects magnetic objects by electromotive force
- High Durability
- High Performance

\*PLEASE CONTACT ALEPH FOR DETAILED SPECIFICATIONS FOR EACH PART

**APPLICATIONS**

- Automotive Fluid Level Sensing
- Dental / Medical Equipment
- Air Conditioning / Dehumidifiers / Heaters
- Monitoring Equipment

- Household Appliances
- Factory Automation
- Waste water Management

- Battery Operated Devices
- Vending Machines
- Restaurant Equipment

**General Purpose Liquid Level Sensors****FS Series**

FS-3101



FS-0181201



FS-9101

**Features:**

- Non Contact Switching
- Built in Float Actuator
- Low contact resistance
- No Power consumption
- No Contact bounce
- Many Package styles
- Easy to install and wire up
- Convenient two wire system
- Complete sensing solution
- Small, compact & low cost
- Side mounting (ESL Series) type available
- FORM A, B & C types available
- Nut or Flange mounting
- Top or Bottom Mounting
- Customizable Stem and float material for specific fluid types including Stainless Steel
- Variety of Float diameter & Stem Length available

**Photo-Electric Liquid Level Sensor****OL Series**

OL-1160

**Features:**

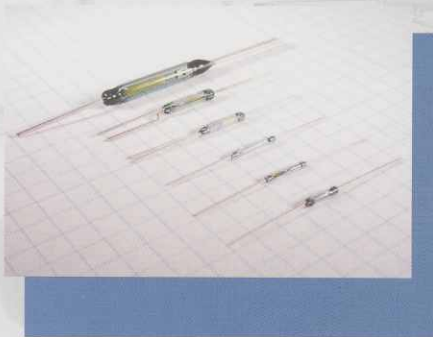
- Emitter and Detector in one compact package
- Detects clear to semi-clear liquid
- Highly accurate
- Non Contact Switching
- No moving parts / float
- Easy to install and wire up
- Convenient three wire system
- Complete Sensing Solution
- Flange mounting
- Versatile Horizontal or Vertical Mounting

\*PLEASE CONTACT **ALEPH** FOR DETAILED SPECIFICATIONS FOR EACH PART

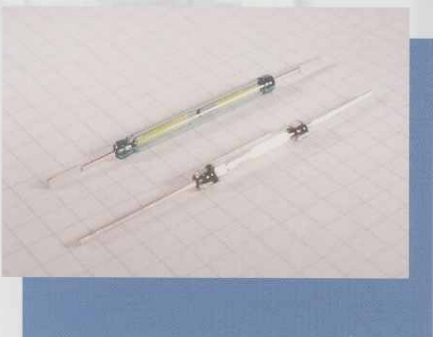


**APPLICATIONS**

- Sensors for Automotive & Robotics
- Office Automation
- Household Appliances
- Exercise Equipment
- Medical Equipment
- Factory Automation
- Security Equipment
- Battery Operated Devices
- Utility Meters
- Telecommunications
- Test Equipment (IC/LSI)
- Automotive Sensors

**General Purpose (Form A)****HYR Series****Features:**

- Low Cost / Long Life
- Hermetically sealed
- No power consumption
- Low contact resistance
- Magnetically actuated
- Power rating of 3 watt to 10 watts
- Glass length of 9.5mm to 50mm
- UL Listed
- Miniature Size
- Form A (SPST) normally open contact

**Specialty Reed Switches (Form A & C)****HYR Series****Features:**

- Ultra high breakdown voltage up to 15,000 VDC
- Low contact resistance
- High switching voltage up to 3.5 KVDC (HYR-5008)
- Carrying current up to 6A (HYR-5051)
- Form A (SPST) normally open
- Form C (SPDT) (HYR-1555, HYR-4003)
- High insulation resistance type ( $10^{-13}$ )
- High inrush current (HYR-1536)
- Vacuum switch (HYR-2016)
- UL Listed
- Miniature size (HYR-1002)
- Close differential (HYR-2031-1)

\*PLEASE CONTACT **ALEPH** FOR DETAILED SPECIFICATIONS FOR EACH PART

## APPLICATIONS

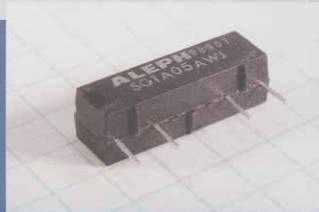
- Exercise Equipment
- Telecommunications
- Electronic Modules
- Access Control
- Security Equipment
- Test Equipment
- Robotics

### General Purpose Reed Relays

### SH/DA/DB Series



DIP



Compact SIP



SIP

#### Features:

- Long Life / Low Cost
- Non Contact Switching
- Low contact resistance
- Low power consumption
- No contact bounce
- SIP & DIP Packaging
- UL listed
- Miniature size
- Many Packaging styles
- Multiple contacts
- 5,10, 20, 50 watt contact rating
- FORM A, B & C types available
- Overmoulded packaging

### SPECIALTY REED RELAYS



PB1C05FXG



ZA1A05NZ

#### Features:

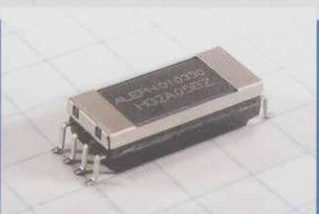
- No contact bounce (chattering prevention circuit not required)
- Longer Life with low and stable contact resistance
- Suitable for high power switching and high inrush current switching
- Open Frame (low cost)
- Ultra compact Z-series

### SMD Reed Relays

### FG/HG Series



RR413A05



HG2A05BZ

#### Features:

- High frequency capabilities with electrostatic shielding
- Suitable for SMD assembly process (IR reflow, Vapor reflow)
- Ultra miniature size for high density mounting (Form 1A, W=20.4mm, D=4.5mm, H=5mm)
- Multiple contact available
- External magnetic shielding

\*PLEASE CONTACT ALEPH FOR DETAILED SPECIFICATIONS FOR EACH PART



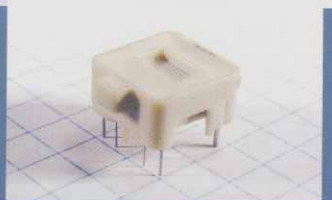
**ALEPH has a wide range of Specialty Sensors and custom capabilities to address all your sensing requirements.**

## REED SWITCH SHOCK SENSORS

## STN / STD / RIS Series



STN-022-01



STD-151

### Applications:

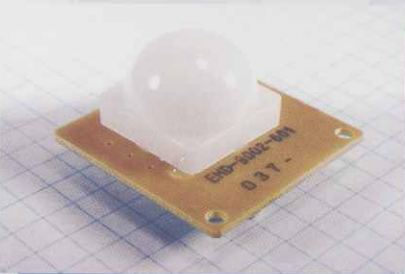
- ATM
- SRS air bag system
- Seat belt pretensioner
- Vending Machines
- Safety Equipment
- Household Appliances

### Features:

- Vertical type, horizontal type
- Ultra-compact type
- PC Board mountable
- Detects G-Force (5-50 G selectable)
- Low power consumption
- High reliability

## PASSIVE INFRARED MOTION SENSORS

## EHD Series



EHD-9002-601

### Applications:

- ATM
- Office Equipment
- Seat belt pretensioner
- Vending Machines
- Safety Equipment
- Household Appliances
- Lighting controls
- Automation controls
- Amusement machines

### Features:

- Internal Fresnel lens provides a wide detection area
- Detects differential temperature of 2° C
- Small package, allows for high density designs at low price
- Lower power consumption than active detectors
- Convenient 3 wire connection
- Digital output

## REED SWITCH FLOW SENSORS

## RPS Series



RPS-11101-101

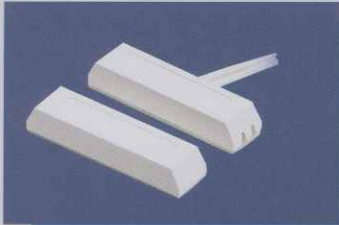
### Applications:

- Detection of flow rate in a small process
- Detects flow rate of pum, warm water supply system, warm water devices etc.

### Features:

- Operating by built in RSW at a specified flow.
- Operating level can be selected between 1.0 and 3.5 liter/minute.
- No power consumption
- Convenient 2 wire connection
- In-line design

\*PLEASE CONTACT ALEPH FOR DETAILED SPECIFICATIONS FOR EACH PART

★ **TECHNOLOGY** ★ **QUALITY** ★ **INNOVATION** ★ **VALUE** ★**Magnetic Door Contacts****PS 1541 WG**

Self Adhesive  
Surface Mount  
Center Leads  
1" Gap

**DC 1551 WG**

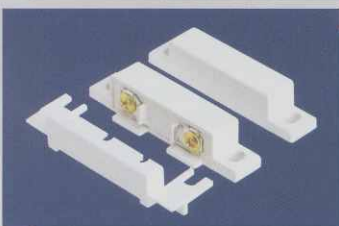
Self Adhesive  
Surface Mount  
Side Leads  
1" Gap

**DC 1651**

3/8" Press Fit  
Stubby  
1" Gap

**DC 2531 WG**

Surface Mount  
Screw Terminals  
1" Gap

**DC 2541 WG**

Surface Mount  
Concealed  
Screws  
1" Gap

**PS 2023**

3" Overhead  
1" Gap

Because we manufacture and use our own hermetically sealed reed switches, the quality and reliability of Aleph Magnetic Contacts is second to none. Their mechanical life expectancy is in excess of 400 million cycles. Models are available in white (W), brown (B), or gray (G) as indicated.

Alnico and ferrite premium quality magnets are used. Models without leads feature concealed mounting and terminal screws, and tamper-resistant covers. Mounting hardware is included. Maximum contact rating is 10W (form "A") or 3W (Form "C" resistive load), with a switching voltage of 30 VDC @ 0.5 amp DC. All Aleph contacts come with a 5-for-1 lifetime guarantee.

**Features:**

- HERMETICALLY SEALED SWITCHES
- RHODIUM OVER GOLD REEDS
- UL LISTED
- HIGH GRADE MAGNETS
- MULTIPLE COLORS (BROWN, WHITE, GREY)
- LIFE EXPECTANCY 400 MILLION CYCLES
- WIDE VARIETY & CUSTOM COLORS AVAILABLE

**DC 1621 WG**

3/8" Press Fit  
1" Gap

**DC 1611 WG**

1/4" Press Fit  
1" Gap

\*PLEASE CONTACT **ALEPH** FOR DETAILED SPECIFICATIONS FOR EACH PART



**Ceiling Mount Passive Infrared Detectors****Panorama SP-360D****SP-360D****Features:**

- 360° Coverage with 46' range at 10'
- 50 Detection Zones
- Unique Interlocking Pyroelectric Element
- Double-Sealed, Insect-Proof Housing
- NC (SPST) Dry Contact Relay Output
- Alarm Memory with First-To-Latch Feature
- Directional Walk-Test LEDs
- High-Low Sensitivity Adjustment
- Selectable 1, 2, 3, or 4 Pulse Count
- UL Listed

**Unicorn Pet Immune Infrared Detectors****XP-40 SERIES****XP-40****Features:**

- LED Lens
- Look-Down Lens
- Sensitivity Adjustment (XP-42 & XP-43 only)
- LED & Pulse Count Selectable
- Pet Immune up to 30 lbs.
- Optional Long Range Lens (XP-40LL 100' X 6' coverage)

**Unique Features**

- XP-40  
Standard; UL Listed
- XP-41  
Lightning Protection & Tamper; UL Listed
- XP-42  
Sensitivity Adjustment & Tamper; UL Listed
- XP-43  
Lightning Protection, Tamper & Sensitivity Adjustment; UL Listed
- XP-44  
Standard

★ **TECHNOLOGY** ★ **QUALITY** ★ **INNOVATION** ★ **VALUE** ★**Indoor PIR / Camera****CMC-30 PIR/CAMERA****Features:**

- 1/4" image sensor
- Ceiling mount / PIR camera
- Video over 2 wires
- IR illuminators
- PIR sensitivity
- Quad element
- Pulse Count selectable
- 28 Detection Zones
- Optional tilt bracket

**Outdoor Dual Technology****XC1XT****Features:**

- Dual Technology
- Outdoor PIR / Microwave
- 2 Form C Relays
- UV / Waterproof
- PIR sensitivity
- Pulse Count selectable
- Selectable - Dual Mode / PIR Mode
- Selectable - Enable / Disable LED
- 40' X 40' detection distance
- Pattern Recognition
- PIR Sensitivity Adjustment
- Animal Immune up to 80 lb.
- Optional Long Range Lens (80' X 6' Coverage)

**Photoelectric Outdoor Beams****PE-150Q / PE-250Q****Features:**

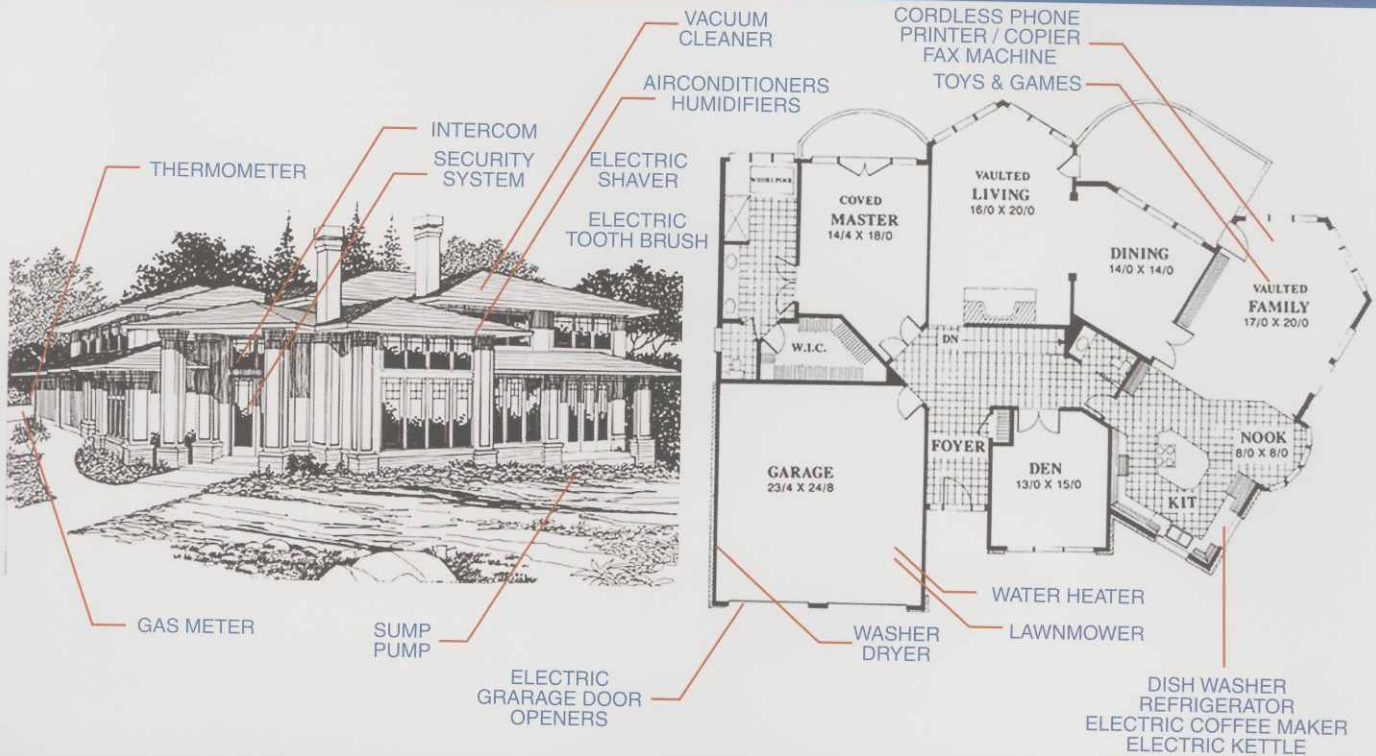
- 500'/820' Outdoor Range
- 8 Channel selectable frequency
- Stackable beams
- Environmental Disqualification (DQ) Circuit prevents falsing due to poor weather conditions - even rain or fog
- NO/NC (SPDT Form "C") Dry Contact Alarm and Trouble Outputs
- Adjustable Beam response time

\*PLEASE CONTACT **ALEPH** FOR DETAILED SPECIFICATIONS FOR EACH PART



## APPLICATIONS

### Residential & Household Applications



### Automotive Applications

The ALEPH Corporation of Japan has over 30 years experience in the manufacture of specialized reed switches and magnetic sensors, and has used this experience in the development of G, Speed and Shock Sensors designed to activate automotive safety systems. As well as safety sensors, ALEPH supplies conventional sensing devices which provide other necessary information about the condition of the vehicle.





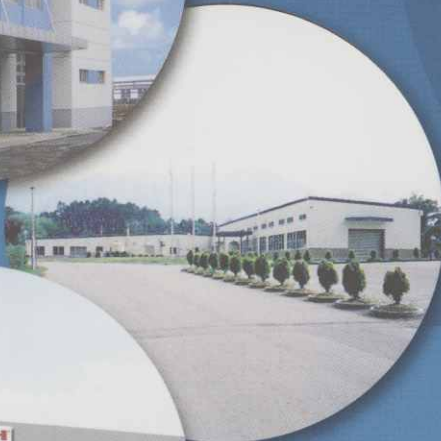
# ALEPH<sup>®</sup>

## AMERICA CORPORATION



Shanghai/Suzhou,  
China

*Aleph America provides more than 40 years of leading edge technology and state-of-the-art manufacturing techniques to the electronics and security industries. As a wholly owned subsidiary of Yokohama, Japan based **Nippon Aleph**, a world-class corporation with sales exceeding \$240 million, dealers and installers rely on Aleph products for the highest quality and most competitive pricing.*



Aizu, Japan

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